IN THE CLAIMS:

1. (Cancelled) A water-borne polymeric complex comprising:

a strand of a π-conjugated polymer having cationic charges thereon; and

a strand of a polymer having balanced hydrophobic/hydrophillic regions and anionic charges thereon that is non-covalently bonded to the π-conjugated polymer to form a polymeric adduct;

the π-conjugated polymers selected from the group consisting of polyaniline, polypyrrole, polythiophene, poly(phenylene sulfide), poly(p-phenylene), poly(phenylene vinylene), poly (furylene vinylene), poly(carbazole), poly(thienylene vinylene), polyacetylene, and poly(isothianaphthene);

the polymer selected from the group consisting of poly(acrylic acid), poly(methacrylic acid), poly(vinylmethylether-co-maleic acid), poly(methylmethacrylate-co-acrylic acid), poly(ethylmethacrylate-co-acrylic acid) and poly(acrylamide-co-acrylic acid), the bonded strands are configured in a double-stranded polymeric complex, the hydrophobic/hydrophilic regions resulting in a latex like dispersion of the complex in water, the polymeric complex characterized by being water soluble before it is coated on a surface and water insoluble after it has been coated on the surface.

2. (Cancelled) The complex of claim 1 wherein the balanced hydrophobic/hydrophilic regions comprise a polymer that has both anionic and cationic functional groups.

3. (Cancelled) The complex of claim 2 wherein the π-conjugated polymer is polyaniline and the polymer is poly(methylmethacrylate-coacrylic acid).

4. (Cancelled) The complex of claim 3 wherein the cationic groups are methacrylate segments and the anionic groups are acrylic acid segments.

5. (Cancelled) The complex of claim 1 wherein the π-conjugated polymer is polyaniline and the polymer is poly(acrylic acid).

6. (Cancelled) The complex of claim 1 wherein the π-conjugated polymer is polyaniline and the polymer is poly(vinylmethylether-co-acrylic acid) and the polymer adduct is folded with the hydropholic regions folded inside and the hydrophilic strands interfacing with

the water.

7. (Cancelled) An anti-corrosive composition which comprises:

the complex of claim 1 combined with a coating composition.

8. (Cancelled) The composition of claim 7 wherein the coating composition is selected from the group consisting of thermoset or thermoplastic resins.

9. (Cancelled) The composition of claim 8 wherein the resins are selected from the group consisting of epoxy, acrylic, alkyd, vinyl, urethane or olefinic resins.

10. (Cancelled) The composition of claim 7 wherein the coating composition is an epoxy and the composition further comprises:

a curing agent selected from the group consisting of capped polyamines, polymercaptans, polyisocyanates.

11. (Cancelled) The composition of claim 7 wherein the coating composition is an epoxy resin and which comprises a curing agent selected from the group consisting of polycarboxylic acids, polyanhydrides, polyphenols and carboxy-functional polyesters.

12. (Cancelled) The composition of claims 9 or 10 wherein the epoxy is a cationic epoxy resin.

13. (Cancelled) The composition of claim 10 wherein the polymeric complex is crosslinked to the epoxy resin.

14. (Cancelled) A method for forming a water-borne polymeric complex comprising:

placing a strand of a π-conjugated polymer having cationic charges thereon in a medium; and

adding a strand of a polymer having balanced hydrophobic/hydrophillic regions and anionic charges thereon to bond to the π-conjugated polymer to form a polymeric adduct;

the π-conjugated polymers selected from the group consisting of polyaniline, polypyrrole, polythiophene, poly(phenylene sulfide), poly(p-phenylene), poly(phenylene vinylene), poly (furylene vinylene), poly(carbazole), poly(thienylene vinylene), polyacetylene, and poly(isothianaphthene);

the polymer selected from the group consisting of poly(acrylic acid), poly(methacrylic acid), poly(vinylmethylether-co-maleic acid), poly(methylmethacrylate-co-acrylic acid), poly(ethylmethacrylate-co-acrylic acid) and poly(acrylamide-co-acrylic acid), the bonded strands are configured in a double-stranded polymeric complex;

controlling the balance of the hydrophobic/hydrophilic regions to form a latex like dispersion of the complex in water, the polymeric complex characterized by being water soluble before it is coated on a surface and water insoluble after it has been coated on the surface.

15. (Cancelled) The complex of claim 14 wherein the balanced hydrophobic/hydrophilic regions comprise a polymer that has both anionic and cationic functional groups.

16. (Cancelled) The complex of claim 15 wherein the π-conjugated polymer is polyaniline and the polymer is poly(methylmethacrylate-coacrylic acid).

17. (Cancelled) The complex of claim 16 wherein the cationic groups are methacrylate segments and the anionic groups are acrylic acid segments.

18. (Cancelled) The complex of claim 14 wherein the π-conjugated polymer is polyaniline and the polymer is poly(acrylic acid).

19. (Cancelled) The complex of claim 14 wherein the π-conjugated polymer is polyaniline and the polymer is poly(vinylmethylether-co-acrylic acid) and which comprises controlling the formation of the polymer adduct to fold the adduct with the hydropholic regions folded inside and the hydrophilic strands interfacing with the water.

20. (Cancelled) A method for the formation of an anti-corrosive composition which comprises:

combining the complex of claim 1 with a coating composition.

21. (Cancelled) The method of claim 20 wherein the coating composition is selected from the group consisting of thermoset or thermoplastic resins.

22. (Cancelled) The method of claim 21 wherein the resins are selected from the group consisting of epoxy, acrylic, alkyd, vinyl, urethane or olefinic resins.

23. (Cancelled) The method of claim 20 wherein the coating composition is an epoxy and the composition further comprises:

adding a curing agent selected from the group consisting of capped polyamines, polymercaptans, polyisocyanates to the composition.

24. (Cancelled) The method of claim 20 wherein the coating composition is an epoxy resin and which comprises:

adding a curing agent selected from the group consisting of polycarboxylic acids, polyanhydrides, polyphenols and carboxy-functional polyesters to the composition.

25. (Cancelled) The method of claims 22 or 23 wherein the epoxy is a cationic epoxy resin.

26. (Cancelled) The method of claim 14 which polymeric complex is crosslinked to the epoxy resin.

27. (Cancelled) The method of claim 20 which comprises:

forming a protective coating on a metal surface by dispersing the polymeric complex in water;

binding a cationic epoxy resin to the polymeric complex to form a cathodically charged coating solution; and electrophoretically coating a metal with the cathodically charged solution.

28. (Cancelled) The method of claim 27 wherein the metal is aluminum.

29. (Added) An anti-corrosive coating which comprises:

a water-borne polymeric complex comprising a strand of a -conjugated polymer selected from the group consisting of polyaniline, polypyrrole, polythiophene, poly(phenylene sulfide), poly(p-phenylene), poly(phenylene vinylene), poly (furylene vinylene), poly(carbazole), poly(thienylene vinylene), polyacetylene, and

poly(isothianaphthene);

a polymer strand selected from the group consisting of poly(acrylic acid), poly(methacrylic acid), poly(vinylmethylether-co-maleic acid), poly(methylmethacrylate-co-acrylic acid), poly(ethylmethacrylate-co-acrylic acid) and poly(acrylamide-co-acrylic acid), the polymer strand being non-covalently bonded to the -conjugated polymer strand; and a

a non-conductive polymer, the non-conductive polymer being complexed with the water-borne polymeric complex, the water-borne polymeric complex having hydrophilic/hydrophobic regions configured to allow the coating to be water soluble prior to application of the coating onto a surface and water insoluble after the coating has been applied to the surface.

30. (Added) The coating of claim 29 wherein the non-conductive polymer is selected from the group consisting of thermoset or thermoplastic resins.

31. (Added) The coating of claim 30 wherein the resins are selected from the group consisting of epoxy, acrylic, alkyd, vinyl, urethane and olefinic resins.

32. (Added) The composition of claim 29 wherein the non-conductive polymer is an epoxy and the coating further comprises:

a curing agent selected from the group consisting of capped polyamines, polymercaptans and polyisocyanates.

33. (Added) The coating of claim 29 wherein the non-conductive polymer is an epoxy resin and which further comprises:

polycarboxylic acids, polyanhydrides, polyphenols and carboxy-functional polyesters.

34. (Added) The coating of claim 32 wherein the epoxy is a cationic epoxy resin.

35. (Added) The coating of claim 32 wherein the polymeric complex is cross-linked to the epoxy resin.

36. (Added) A method of forming an anti-corrosive coating which comprises:

dissolving a strand of polymeric ion selected from the group consisting of poly(acrylic acid), poly(methacrylic acid), poly(vinylmethylether-co-maleic acid), poly(methylmethacrylate-co-acrylic acid), poly(ethylmethacrylate-co-acrylic acid) and poly(acrylamide-co-acrylic acid in a medium comprised of water;

adding a plurality of monomers selected from the group consisting of aniline, pyrrole, thiophene, phenylene sulfide, p-phenylene, phenylene vinylene, furylene vinylene, carbazole, thienylene vinylene, acetylene, and isothianaphthene to the medium;

adsorbing the monomers onto the strand of the polymeric ion to form a polymeric adduct;

folding the polymeric adduct to form a particle, the particle having an interior and an exterior, at least a portion of the interior of the particle being hydrophobic and at least a portion of the exterior of the particle being hydrophilic, the exterior of the particle interfacing with the medium;

subjecting the particle to an oxidizing environment to form a polymeric complex, the polymeric complex comprising a strand of a -conjugated polymer selected from the group

consisting of polyaniline, polypyrrole, polythiophene, poly(phenylene sulfide), poly(p-phenylene), poly(phenylene vinylene), poly (furylene vinylene), poly(carbazole), poly(thienylene vinylene), polyacetylene, and poly(isothianaphthene) bonded to the polymer strand;

bonding the polymeric complex to a non-conductive polymer wherein the polymeric complex is complexed with the non-conductive polymer to form the coating, the polymeric complex having hydrophilic/hydrophobic regions that allow the coating to be water soluble prior to application of the coating onto a surface and water insoluble after the coating has been applied to the surface.

37. (Added) The method of claim 36 wherein the non-conductive polymer is selected from the group consisting of thermoset or thermoplastic resins.

38. (Added) The method of claim 37 wherein the resins are selected from the group consisting of epoxy, acrylic, alkyd, vinyl, urethane and olefinic resins.

39. (Added) The method of claim 36 wherein the non-conductive polymer is an epoxy and the method further comprises:

adding a curing agent to the coating selected from the group consisting of capped polyamines, polymercaptans and polyisocyanates to the coating.

40. (Added) The method of claim 36 wherein the non-conductive polymer is an epoxy resin and which further comprises:

adding a curing agent selected from the group consisting of polycarboxylic acids, polyanhydrides, polyphenols and carboxy-functional polyesters to the coating.

41. (Added) The method of claim 38 wherein the epoxy is a cationic epoxy resin.

42. (Added) The method of claim 38 wherein the polymeric complex is cross-linked to the epoxy resin.

43. (Added) A method of forming a protective coating on a metal surface comprising:

forming a protective coating on a metal surface by dispersing a water-borne polymeric complex comprising a strand of a -conjugated polymer selected from the group consisting of polyaniline, polypyrrole, polythiophene, poly(phenylene sulfide), poly(p-phenylene), poly(phenylene vinylene), poly (furylene vinylene), poly(carbazole), poly(thienylene vinylene), polyacetylene, and poly(isothianaphthene) and a polymer strand selected from the group consisting of poly(acrylic acid), poly(methacrylic acid), poly(vinylmethylether-co-maleic acid), poly(methylmethacrylate-co-acrylic acid), poly(ethylmethacrylate-co-acrylic acid) and poly(acrylamide-co-acrylic acid), the polymer strand being non-covalently bonded to the -conjugated polymer strand in an aqueous medium;

binding a cationic epoxy resin to the water-borne polymeric complex to form a cathodically charged complexed solution; and

electrophoretically coating a metal with the cathodically charged complexed solution to form the protective coating, the water-borne polymeric complex having hydrophobic/hydrophilic regions configured to render the protective coating water insoluble.

44. (Added) The method of claim 43 wherein the metal is aluminum.

45. (Added) The method of claim 44 wherein the metal is steel.

46. (Added) The method of claim 43 wherein the polymeric complex is present in the protective coating in a range of between about greater than 1% to 6% by weight based upon the total weight of the protective coating.

47. (Added) The method of claim 43 which further comprises:

providing a net positive charge on the protective coating by controlling the ratio of polymeric complex to cationic epoxy resin in the cathodically charged solution.

48. (Added) An anti-corrosive coating which comprises:

a water-borne polymeric complex comprising a strand of a -conjugated polymer selected from the group consisting of polyaniline, polypyrrole, polythiophene, poly(phenylene sulfide), poly(p-phenylene), poly(phenylene vinylene), poly (furylene vinylene), poly(carbazole), poly(thienylene vinylene), polyacetylene, and poly(isothianaphthene);

a polymer strand, the polymer strand being non-covalently bonded to the -conjugated polymer strand; and a

non-conductive polymer, the non-conductive polymer being complexed with the water-borne polymeric complex, the water-borne polymeric complex having hydrophilic/hydrophobic regions configured to allow the coating to be water soluble prior to application of the coating onto a surface and water insoluble after the coating has been applied to the surface.

49. (Added) The composition according to claim 48 wherein the polymer strand comprises anionic

and cationic functional groups.

50. (Added) The composition according to claim 49 wherein the polymer strand is selected from the group consisting of poly(acrylic acid), poly(methacrylic acid), poly(vinylmethylether-co-maleic acid), poly(methylmethacrylate-co-acrylic acid), poly(ethylmethacrylate-co-acrylic acid) and poly(acrylamide-co-acrylic acid).

51. (Added) The composition of claim 50 wherein the -conjugated polymer is polyaniline and the polymer strand is poly(methylmethacrylate-co-acrylic acid).

52. (Added) The composition of claim 51 wherein the cationic groups are methacrylate segments and the anionic groups are acrylic acid segments.